USDA Service Center Agencies
Geospatial Data Management Team
Data Management Plan For

Ortho Imagery - State and Locally Acquired and Satellite Imagery

September 2004

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I. Purpose and Scope (business case)

A. Purpose

These products are used for CLU digitizing and boundary maintenance, Farm Program administration, conservation planning and Soil Survey production.

Standard sources for ortho imagery used in USDA Service Center Agencies (SCA) include the National Agricultural Imagery Program (NAIP) and the National Digital Ortho Photography Program (NDOP). Non-standard sources include state and locally acquired ortho-imagery and satellite imagery that is acquired and ortho rectified to meet USDA SCA standards and accuracy specifications.

The goal is to meet Service Center standards. Alternative, non-standard sources such as state and locally acquired or satellite imagery may be the best available.

State and local data are generally acquired in non USDA SCA standard format. Non SCA standard ortho imagery acquired through state and local partnerships will be managed within the local service center folder structure. There is no intent to manage state and locally acquired imagery in the Geospatial Data Warehouse for availability for web services (data streaming) and distribution through the Gateway for USDA agencies. Public access may be restricted.

Satellite imagery can be delivered to a Service Center in a standard format such as MrSID. License restrictions may apply.

B. Scope

The scope is on a project-by-project basis that includes the United States and territories serviced by FSA and/or NRCS.

II. Acquisition

A. Data Source

1. Producer Information

   Varies with source. Limited to date. Bruce Finch at APFO and Tony Kimmet/Dorsey Plunk at the NCGC is the contact for bringing data into standards.

a. Name (NDOP, Innovative Partnerships (IP), State Orthoimagery Programs)

b. Location of Headquarters
c. Internet Address

2. Publisher Information

Varies with source

a. Name
b. Location of Headquarters
c. Internet Address

3. Acquisition Information

Varies with source

a. Delivery Media (Portable Hard Discs, DVD, CD-ROM, FTP)
b. Download URL
c. Projected Data Availability Schedule

B. Standards Information

1. Geospatial Data Standard

a. Standard Name and Steward Information

United States Department of Agriculture (USDA) Service Center Agencies (SCA)
Standard for Geospatial Data

b. Standard Version

SCI Std 003-02
October 15, 2003

c. Standard URL

http://www.itc.nrcs.usda.gov/scdm/docs/SPG-GeospatialDataStandard.pdf

2. Metadata Standard

a. Standard Name and Steward Information

Metadata are compliant with:
Federal Geographic Data Committee (FGDC)
Content Standard for Digital Geographic Metadata FGDC
STD-001-1998 Version 2 revised June 1998

And:
United States Department of Agriculture (USDA) Service Center Agencies (SCA)
Standard for Geospatial Dataset Metadata
SCI Std 003-02 October 15, 2003

http://www.itc.nrcs.usda.gov/scdm/docs/SPG-GeospatialDatasetFileMetadata.pdf

b. Description of Metadata Captured
c. Metadata Accuracy and Completeness Assessment

C. Acquired Data Structure -

1. Geospatial Data Format

a. Format (raster, vector, etc.)

Raster (DOQ Key Word Header Format, GeoTIF, Satellite in 8 bit mode, NITF, MrSID, ER Mapper, GeoJPEG 2000)

All the following items are dependent on project specifications.

b. Format Name
c. Data Extent
d. Horizontal and Vertical Resolution
e. Absolute Horizontal and Vertical Accuracy
f. Nominal Scale
g. Horizontal and Vertical Datum
h. Projection
i. Coordinate Units
j. Average Data Set Size
k. Symbology

2. Attribute Data Format

a. Format Name

Raster data sets with no attribute information.

b. Database Size

Not Applicable to raster data sets.

3. Data Model

a. Geospatial Data Structure

Dependent on project specifications

b. Attribute Data Structure

Not Applicable to raster data sets.

c. Database Table Definition

Not Applicable to raster data sets.

d. Data Relationship Definition

Not Applicable to raster data sets.

e. Data Dictionary

Not Applicable to raster data sets.

D. Policies

1. Restrictions

a. Use Constraints

Ortho imagery used to develop critical USDA datasets shall meet USDA Geospatial data standards and the United States National Map Accuracy Standards as listed at the following site.

http://rockyweb.cr.usgs.gov/nmpstds/nmas.html

Ortho imagery acquired from state and local sources or satellite imagery of different spatial resolution and/or horizontal accuracy from Service Center Standards could miss-register with SCA data sets, such as CLU and SSURGO. State, locally acquired and satellite imagery will undergo registration testing for critical SCA data sets.

b. Access Constraints

License restrictions may apply.

c. Certification Issues

Must meet USDA Geospatial data standards. Can be certified to standards after review and authorization by APFO.

2. Maintenance

Varies with source

a. Temporal Information
b. Average Update Cycle

E. Acquisition Cost

Varies with source

1. Cooperative Agreement

a. Description of Agreement
b. Status of Agreement

2. Cost to Acquire Data

III. Integration

Integration is dependent on project specifications. Custom integration will be considered on a case-by-case basis, as resources permit.

A. Value Added Process

1. Benefit to the Service Center

2. Process Model

a. Flow Diagram
b. Process Description

3. Technical Issues

a. Tiling
b. Compression
c. Scale
d. Tonal Matching
e. Edge-matching

4. Quality Control

a. Procedures
b. Acceptance Criteria

5. Data Steward

a. Name and Organization
b. Responsibilities

B. Integrated Data Structure

1. Geospatial Data Format

a. Format (raster, vector, etc.)
b. Format Name
c. Data Extent
d. Horizontal and Vertical Resolution
e. Absolute Horizontal and Vertical Accuracy
f. Nominal Scale
g. Horizontal and Vertical Datum
h. Projection
i. Coordinate Units
j. Symbology
http://www.itc.nrcs.usda.gov/scdm/docs/SPG-StandardforGeospatialSymbology.pdf

2. Attribute Data Format

a. Format Name
b. Database Size

3. Data Model

a. Geospatial Data Structure
b. Attribute Data Structure
c. Database Table Definition
d. Data Relationship Definition
e. Data Dictionary

C. Resource Requirements

1. Hardware and Software
2. Staffing

D. Integration Cost

1. Hardware and Software
2. Staffing

IV. Delivery

A. Specifications

1. Directory Structure

a. Folder Theme Data is Stored In

F:\geodata\ ortho_imagery

2. File Naming Convention

http://www.itc.nrcs.usda.gov/scdm/docs/SPG-GeospatialDataSetFileNamingStandard.pdf

a. List of Theme Files and The File Naming Convention

A. User Information

1. Accuracy Assessment

Accuracy is determined by state and local sources involved in data collection and dependent on acquisition specifications.

a. Alignment with Other Theme Geospatial Data
b. Content

2. Appropriate Uses of the Geospatial Data

Varies with source

a. Display Scale
b. Plot Scale
c. Area Calculations
d. Decision Making

B. Maintenance and Updating

1. Recommendations and Guidelines

Varies with source

a. Original data location and structure
b. Update Cycle
c. Availability
d. Change Control

NRCS Specifications

0) Minimum ortho imagery resolution for USDA-NRCS programs are one meter Ground Sample Distance (GSD).
0) Data Quality – All other ortho imagery resolutions must meet the accuracy standards as published in the" United States National Map Accuracy Standards" (NMAS) as listed at the following address. http://rockyweb.cr.usgs.gov/nmpstds/nmas.html . Higher resolution datasets (6 inch, 2 feet etc..) can be used when available if ortho imagery data meets the National Map Accuracy standards for horizontal and vertical accuracy at 1:24,000 or higher.
0) NRCS will receive the highest resolution ortho imagery data sets from data producers.
0) Data delivered to the USDA-NCGC must be full resolution, uncompressed data in one of the following data formats (DOQ Keyword, GeoTIF)
0) Imagery data must be within +/- 10 meters of the first generation DOQs for 90% of the points tested.
0) Testing of locally acquired and satellite ortho imagery data for SCA will be coordinated between APFO and the NCGC.
0) Ortho imagery data will be made available via the GDW except where user restrictions apply.
0) Data producer will provide an ArcInfo format vector file (Shapefile) with attribute information including tile name for any dataset not in quad/quarter data format.
0) APFO and the NCGC will coordinate inspection, storage, management and distribution of "State and Locally Acquired and Satellite Imagery".